REMARKS:

In view of the foregoing amendments and the following remarks please reconsider the current application.

In the claims, independent claims 1, 10 and 16 have been amended in order to distinguish the invention from the Examiner's cited references and any other prior art reference considered alone and for a combination of references.

Claim 1 has been amended to include more detail with regard to the communication of the heat exchanger with the pump along with the relationship therebetween. Claim 1 has been further limited by the inclusion of a surge tank, separate and in addition to the inlet header, and which is *coupled to the inlet header* in series therewith *through a feed tube* when the surge tank is provided *to span a top of the heat exchanger*. Claim 1 is further limited in noting that the surge tank is *maintained at atmospheric pressure*.

The present invention as defined in claim 1 is particularly distinguished in that by providing a separate surge tank feeding into the header with the surge tank positioned at the top of the heat exchanger, the inlet header is always maintained full of fluid and accordingly no vapor is permitted to build up therein as in the prior art. By providing the surge tank feeding the inlet header and positioning the surge tank at the top of the heat exchanger, the exchanger fluid is preheated in the surge tank and ensures that the inlet header remains full of fluid rather than lowering the efficiency considerably by permitting vapor pressure to accumulate. As the use of a surge tank separate from the inlet header connected by a feed tube and which is operated at atmospheric pressure is distinguished from any of the Examiner's prior art references, it is respectfully submitted that claim 1 should now be in condition for allowance.

The Examiner's primary reference for previously rejecting the claims is US 6,776,227 to Beida et al. which disclose a wellhead heating apparatus. Two embodiments are disclosed. In the first no surge tank is provided whatsoever, but rather the outlet from the pump feeds directly into the inlet header where vapor pressure is permitted to accumulate. This vapor

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accumulation reduces the efficiency of the exchanger. Due to the pressure accumulation rather than operating at atmospheric pressure as in the now amended claim 1, the pressure accumulating in the first embodiment also works against the pump to cause further reductions in efficiency. In the second embodiment, again there is provided no surge tank coupled to the inlet header, but rather a surge tank is provided in communication with the outlet header. When provided at the outlet header however already heated fluid is overflowed into the surge tank where vapor condenses and heat is vented off from the already heated fluid rather than collecting heat when preheating the surge tank ahead of the inlet header as in the now amended claim 1. The heat loss in the second embodiment of the prior art results in further reductions in efficiency as compared to the current invention as defined in claim 1.

Turning now to independent claim 10, the heat exchanger has been claimed in combination with a catalytic heater having a heat radiating surface and a thermostatic control to emphasize that the heat exchanger device of the present invention is well suited for retrofitting to a known commercially available type heater having a pre-existing thermostatic control. Claim 10 has also been amended to include similar limitations to claim 1 noted above with regard to a surge tank separate from the inlet header which feeds fluid to the inlet header directly by gravity feed and a pump which is coupled to draw fluid from the outlet header. Claim 10 further specifies that the surge tank is operated at atmospheric pressure. More particularly however claim 10 is distinguished yet further from the prior art by including the limitation of *a temperature probe operatively connected to the existing thermostatic control of the catalytic heater and which is supported in communication with the heat exchanger fluid located within the surge tank.* This configuration contradicts routine skill in the art which would normally suggest that the thermostat in such a system be located at the target area, however for purposes of retrofitting it is discovered to be effective to locate the probe within the surge tank adjacent the heater which advantageously simplifies the retrofitting process. Accordingly it is respectfully submitted that claim 10 is distinguished and non-obvious from the prior art of record as none of the cited references disclose

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any form of a heater with an existing thermostatic control which is coupled to communicate with heat exchanger fluid in a surge tank.

Turning now to independent claim 16, additional limitations have been included with regard to pumping fluid directly from the outlet header of the heat exchanger to the target area and supplying fluid to the inlet header from the surge tank at atmospheric pressure by gravity feed. Claim 16 is also limited in noting that the surge tank spans the top of the heat exchanger and is vented to atmospheric pressure unlike the prior art references. More particularly claim 16 refers to the surge tank feeding fluid to the inlet header *through a feed tube extending from the surge tank to the inlet header* such that the inlet header is clearly separate from the surge tank. For similar reasons noted above with regard to independent claim 1, the method claim 16 of similar scope should now also be in condition for allowance.

Dependent claim 20 has been cancelled and accordingly the Examiner's objections to claim 20 should now be overcome. The remaining dependent claims have been amended in order to be consistent with the amendments to the independent claims noted above. No other amendments have been made.

Favorable reconsideration of this application is earnestly solicited.

Respectfully submitted
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CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (571) 273-8300, on January 27, 2006
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